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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,379	04/02/2004	David S. Breed	ATI-328	2566
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BRIAN ROFFE, ESQ 11 SUNRISE PLAZA, SUITE 303 VALLEY STREAM, NY 11580-6170			EXAMINER ROSENBERG, LAURA B	
			ART UNIT	PAPER NUMBER
			3616	

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/817,379	BREED, DAVID S.	
	Examiner	Art Unit	
	Laura B. Rosenberg	3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 29-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-12, 15-21, 23 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 9, 13, 14, 22 and 24 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the different embodiments regarding the multiple or single inelastic and/or elastic films, the configuration of an inner airbag within an outer airbag, the valve arrangements, the vent arrangements, and the remainder of the claimed subject matter must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 5 and 9 are objected to because of the following informalities:

"vet" should be --vent-- (claim 5, line 4);

"a layer" should be --a second layer-- (claim 9, line 2).

Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 12 and 25 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Specifically, claims 12 and 25 compare the width of the airbag to the width of an occupant's knees.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 12, 15-21, 23, and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Graebe (3,747,952). Graebe discloses a motor vehicle (including passenger compartment #4) comprising:

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- Instrument panel (including #12, 18)
- Front seat (including #6) on which an occupant sits opposite the instrument panel (best seen in figures 1, 4)
- Knee protection airbag (including #2) having a storage position (can be seen in solid lines in figure 3) and a deployed position (can be seen in figure 1 and in dotted lines in figure 3)
- Inflator (including #20, 22) able to inflate the airbag with pressurized gas from the storage position to the deployed position and connected to the airbag via a gas conduit (including #22, 28)
- The airbag being able to substantially fill a space between the legs/knees of the occupant when seated on the front seat and the instrument panel in the deployed position (best seen in figure 1) such that the instrument panel provides support for the airbag (best seen in figure 1)
- The airbag comprises a plurality of material sections (including #40) defining a plurality of interconnected cells/chambers/compartments (including elongated bodies #42) having a width less than a width of the occupant's knees (would depend on occupant's size, but generally shown in figure 4)
- Vent (including #31) able to vent inflating fluid from an interior of the airbag (column 5, lines 18-22)
- The airbag is able to conform to the shape of the knees of the occupant (best seen in figures 1, 4)

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- Housing (including #32) able to store the airbag and mounted in the vehicle in a position in which the airbag engages lower extremities of the occupant upon inflation (best seen in figures 1, 3, 4)
- The airbag being able to distribute impact force imposed by the lower extremities over the chambers (best seen in figures 1, 4)
- The airbag provides a soft surface able to engage the lower extremities of the occupant (best seen in figure 1)
- Mounting means (including bracket and housing, as seen in figures 1, 3) for mounting the airbag device to the instrument panel
- Crash sensor (column 2, lines 57-62) connected to the inflator/generator and able to detect an impact involving the vehicle such that it directs the inflator/generator to inflate the airbag cells and the airbag deploys from a stowed position downward and rearward (only some of the cells deploy in this direction) into a position below an instrument panel such that it restrains a forward and downward movement of an occupant situated in front of the instrument panel (best seen in figure 1)

7. Claims 1, 3, 4, 6, 8, 11, 12, 15-21, 23, and 25 are rejected under 35

U.S.C. 102(b) as being anticipated by Fleck et al. (3,733,091). Fleck et al. disclose a motor vehicle (including vehicle body #10) comprising:

- Instrument panel (including #18)
- Front seat (for example, #12) on which an occupant (for example, #14) sits opposite the instrument panel (best seen in figure 1)

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- Knee protection airbag (including #26) having a storage position (best seen in solid lines in figure 1) and a deployed position (best seen in dotted lines in figure 1)
- Inflator/generator (including #20, 22) able to inflate the airbag with pressurized gas from the storage position to the deployed position and connected to the airbag via a gas conduit (including #22, 24)
- The airbag being able to substantially fill a space between the legs/knees of the occupant when seated on the front seat and the instrument panel in the deployed position (best seen in figure 1) such that the instrument panel provides support for the airbag (best seen in figure 1)
- The airbag comprises at least two pieces of inelastic plastic film (including #34, 36, 56; dacron and nylon are plastics, and plastic is inherently inelastic) having peripheral edges (including #38; peripheral edges of #56 not labeled), one of the pieces having an inlet port (including #40 and opens ends of #56) able to be used for inflow of inflating fluid
- Attachment means (including stitching) for attaching the pieces of film together at least at the peripheral edges (best seen in figures 2-5) to form a substantially sealed airbag
- Interconnected chambers (including #44, 46, 56) formed by attaching the pieces of film at location other than the peripheral edges (for example, at #42, 60)
- The airbag comprises a single piece of inelastic plastic film (for example, including #36; dacron and nylon are plastics, and plastic is inherently inelastic) having an inlet portion (including #40) able to be used for inflow of inflating fluid

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- The airbag comprises a first sheet of film (for example, including #34) and a member (for example, including #54) connecting with the first sheet of film and able to arrest the propagation of a tear in the first sheet of film, the member being a network of multi-directional material strips (best seen in figure 6)
- The airbag comprises a plurality of material sections (including #34, 36, 56) defining a plurality of interconnected cells/chambers/compartments (including #44, 46, 56) having a width less than a width of the occupant's knees (would depend on occupant's size, but generally shown by size of cells in figures 3, 5)
- Vent (including #54, 68) able to vent inflating fluid from an interior of the airbag (through narrow openings defined by flaps; columns 2, 4)
- The airbag is able to conform to the shape of the knees of the occupant (best seen in figure 1)
- Housing (including #28) able to store the airbag and mounted in the vehicle in a position in which the airbag engages lower extremities of the occupant upon inflation (best seen in figure 1)
- The airbag being able to distribute impact force imposed by the lower extremities over the chambers (best seen in figure 1)
- The airbag provides a soft surface able to engage the lower extremities of the occupant (best seen in figure 1)
- Mounting means (including manner in which inflator/generator is mounted to #18 and housing, as seen in figure 1) for mounting the airbag device to the instrument panel

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- Aspiration means (including #50, 52, 54, 66, 68) for combining gas from the passenger compartment of the vehicle with pressurized gas from the gas generator and directing the combined flow of gas into the airbag (columns 2-3)

8. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Kirchoff (4,360,223). Kirchoff discloses a vehicle (including body #10) comprising:

- Instrument panel (including #16)
- Front seat (for example, #18) on which an occupant (for example, occupant in figure 1) sits opposite the instrument panel (best seen in figure 1)
- Knee protection airbag (including #28) having a storage position (best seen in figure 2) and a deployed position (best seen in figures 1, 3)
- Inflator (including #26) able to inflate the airbag from the storage position to the deployed position (including #22, 24)
- The airbag being able to substantially fill a space between the knees of the occupant when seated on the front seat and the instrument panel in the deployed position (best seen in figure 1)
- The airbag comprises inelastic plastic film (including #28; nylon is a plastic, and plastic is inherently inelastic) and has an inlet port (not specifically shown, but would be at the open end of airbag #28 where it connects to inflator #26; best seen in figures 2, 3) able to be used for inflow of inflating fluid, and a variable outlet vent (including #32, 32', 34) comprising pressure responsive means for controlling

opening of the vent to control flow of gas through the vent in response to pressure in the airbag (column 3)

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fleck et al. (3,733,091) in view of Nicolson (3,760,414). Fleck et al. do not disclose sensor details for how the inflator/generator will be signaled to cause inflation. Though it is old and well known in the art to use a crash sensor for this function, Fleck et al. do not specifically disclose an anticipatory crash sensor. Nicolson teaches a motor vehicle (for example, #1) comprising a safety restraint system (such as an airbag) and an anticipatory crash sensor system (including #3, 5, 6) able to forecast a crash between the vehicle and another object (for example, #2) prior to impact, the anticipatory crash sensor system being coupled to the safety restraint system and able to activate the safety restraint system prior to the crash (column 2, lines 27-34; column 4, lines 9-14; column 11, lines 66-67). It would have been obvious to one skilled in the art at the time that the invention was made to modify the vehicle of Fleck et al. with the anticipatory crash sensor system of Nicolson in order to reduce injury to vehicle occupants since the restraint system would be actuated prior to vehicle impact.

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11. Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graebe (3,747,952) in view of Lohr et al. (3,900,210), further in view of Seizert (5,044,663).

Graebe discloses the airbag (including #40) made of at least one layer of flexible material. Graebe does not disclose an inner and outer airbag arrangement, each having at least one layer made of plastic film, with the inner airbag filling an interior volume of the outer airbag when inflated. Lohr et al. teach an airbag (best seen in figure 1) comprising an outer airbag (including #4) made of at least one layer of material and an inner airbag (including #2) made of at least one layer of material and arranged to fill an interior volume of the outer airbag when inflated (best seen in figure 1). It would have been obvious to one skilled in the art at the time that the invention was made to modify the airbag of Graebe with the inner and outer airbag arrangement of Seizert in order to dissipate the total amount of energy over a period of time and reduce the sound level of inflation, as well as to reduce heat and smoke associated with the use of an inflator and provide a redundant advantage in the event that one airbag fails (Lohr et al.: column 1). In addition, Graebe does not disclose the airbag material being plastic film. Seizert teaches the use of plastic material for vehicle airbags (column 6, lines 56-60). It would have been obvious to one skilled in the art at the time that the invention was made to modify the airbag of Graebe with the plastic material of Seizert in order to provide the requisite strength required for use as a motor vehicle airbag restraint system (Seizert: column 6, lines 56-60)). Further, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the

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intended use as a matter of obvious design choice, with plastic film being a relatively inexpensive, easy to manufacture, durable choice for an airbag.

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graebe (3,747,952) in view of Sack (3,638,755). Graebe does not disclose a net surrounding the airbag during and after deployment of the airbag. Sack teaches an airbag (including #4) and a "net" (including #2) surrounding the airbag during and after deployment of the airbag (best seen in figures 1, 1A). It would have been obvious to one skilled in the art at the time that the invention was made to modify the airbag of Graebe with the net of Sack in order to dissipate the total amount of energy of the gas over a period of time and reduce the peak sound level of the energy (Sack: column 2, lines 31-42).

13. Claims 26 and 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fleck et al. (3,733,091) in view of Graebe (3,747,952). Fleck et al. disclose an inflatable tubular bolster (including #26) for a vehicle (including vehicle body #10) comprising an inflatable airbag (including #26) comprising a plurality of cells (including #44, 46, 56), a gas generator (including #20, 22, 24) fluidly connected to the airbag via a gas conduit (including #22, 24), the airbag being deployed from a stored position (best seen in solid lines in figure 1) downward and rearward into a position below an instrument panel (including #18) such that it restrains forward and downward movement of an occupant situated in front of the instrument panel (best seen in dotted lines in figure 1). The airbag is able to deploy in front of an occupant's knees and inhibits forward and

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downward movement of the occupant (best seen in figure 1). Fleck et al. do not disclose sensor details for how the generator will be signaled to cause inflation. Though it is old and well known in the art to use a crash sensor for this function, Fleck et al. do not specifically disclose a crash sensor. Graebe teaches all of the features of an airbag as set forth above, including a crash sensor (column 2, lines 57-62) connected to the generator and able to detect an impact involving the vehicle such that it directs the generator to inflate the airbag cells and the airbag deploys from a stowed position downward and rearward (only some of the cells deploy in this direction) into a position below an instrument panel such that it restrains a forward and downward movement of an occupant situated in front of the instrument panel (best seen in figure 1). It would have been obvious to one skilled in the art at the time that the invention was made to modify the inflatable tubular bolster of Fleck et al. with the crash sensor of Graebe in order to sense an impact and cause the generator to inflate the airbag.

14. Claims 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fleck et al. (3,733,091) in view of Graebe (3,747,952), further in view of Sobkow (3,702,706). Fleck et al. do not specifically disclose the internal pressure of the airbag after inflation. Sobkow teaches an inflatable airbag (including #38) deployed in front of an occupant's knees (including #44), the airbag being of the high pressure type and attaining an internal pressure in excess of 10 psi (approximately 0.69 bar) after inflation (column 4). It would have been obvious to one skilled in the art at the time that the invention was made to modify the airbag of Fleck et al. with the high pressure of Sobkow in order to

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provide an appropriate level of inflation for the region of the occupant's body being protected, and in order to allow for the use of a less expensive, smaller size gas generator with a lower inflation noise level (Sobkow: column 4).

Allowable Subject Matter

15. Claims 9, 13, 14, 22, and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Klove, Jr. et al. disclose a knee bolster airbag extending between the knees of a front seat occupant and the instrument panel.

Fleck et al. ('225) disclose a knee bolster airbag extending between the knees of a front seat occupant and the instrument panel, and including a plurality of interconnected cells.

Noll et al. disclose a knee bolster airbag extending between the knees of a front seat occupant and the instrument panel, and including a bag within a bag configuration.

Acs discloses an airbag with an inner inelastic bag and an outer bag.

Sakairi et al. disclose various fabric combinations for use in airbags.

Wnenchak discloses layers of airbag material.

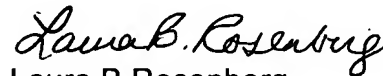
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Yamamoto discloses an airbag including two elastic fabric layers.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura B. Rosenberg whose telephone number is (571) 272-6674. The examiner can normally be reached on Monday-Friday 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on (571) 272-6669. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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